

IN THE CLAIMS

Please amend the claims as set out in the following listing of the claims. This claim listing replaces and supersedes all prior claim listings:

1. (Currently Amended) An image decoder for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data; the image decoder comprising:

an electric power source having consumable energy for supplying electric power to respective units of the image decoder;

means for determining the remaining energy of said source;

a decoding means for decoding the frames of image data of the encoded motion picture data at an adjustable image frame rate to provide an adjustable number of bits per pixel of the decoded motion picture data;

means for measuring the amount of energy that was consumed during a decoding time interval;

means for estimating the amount of energy anticipated to decode and display remaining motion picture data as a function of the measured amount of energy that was consumed;

a displaying means for displaying the frames of the decoded motion picture data; and

a controlling means for controlling the decoding means on the basis of a difference between said anticipated energy needed for decoding and displaying the motion picture data and the remaining energy of the electric power source to

dynamically control the playing quality of the motion picture data by selectively reducing said image frame rate or said number of bits per pixel.

2. (Currently Amended) The image decoder according to claim 1, wherein said decoding means includes a CPU operable at an adjustable frequency; and said means for determining the remaining energy comprises a load monitoring means for monitoring the computational load of the decoding means and to adjust the CPU frequency of the decoding means in accordance with the computational load corresponding to the playing quality.

3. (Canceled)

4. (Currently Amended) An image decoding method performed by an image decoder for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data comprising the steps of:

decoding the frames of image data of the encoded motion picture data at an adjustable image frame rate to provide an adjustable number of bits per pixel of the decoded motion picture data;

displaying the frames of the decoded motion picture;  
measuring the amount of energy of an electric power source that supplies electric power to respective units of the image decoder that was consumed during a decoding time interval;

estimating the amount of energy anticipated to decode and display remaining motion picture data as a function of the measured amount of energy that was consumed;  
and

controlling the decoding step on the basis of a difference between said anticipated energy needed for decoding and displaying the motion picture data and the remaining energy of an said electric power source that supplies electric power to respective units of the image decoder to dynamically control the playing quality of the motion picture data by selectively reducing said image frame rate or said number of bits per pixel.

5. (Currently Amended) The image decoding method according to claim 4, wherein ~~the image decoder includes a CPU operable at an adjustable frequency; and the decoding step further comprises monitoring a computational load when decoding and adjusting the CPU frequency in accordance with the computational load corresponding to the playing quality.~~

6. (Canceled)

7. (Currently Amended) A program embodied in a computer-readable medium for controlling an image decoding process performed by an image decoder for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data by:

decoding the frames of image data of the encoded motion picture data at an adjustable image frame rate to provide an adjustable number of bits per pixel of the decoded motion picture data;

displaying the frames of the decoded motion picture data;

measuring the amount of energy of an electric power source that supplies electric power to respective units of the image decoder that was consumed during a decoding time interval;

estimating the amount of energy anticipated to decode and display remaining motion picture data as a function of the measured amount of energy that was consumed;  
and

controlling the decoding step on the basis of a difference between said anticipated energy needed for decoding and displaying the motion picture data and the remaining energy of an said electric power source that supplies electric power to respective units of the image decoder to dynamically control the playing quality of the motion picture data by selectively reducing said image frame rate or said number of bits per pixel.

8-14 (Canceled).

15. (Currently Amended) An image decoder for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data; the image decoder comprising:

a decoding means for decoding the frames of image data of the encoded motion picture data;

a displaying means for displaying the frames of the decoded motion picture data;  
and

a controlling means for anticipating the time needed to display a predetermined number of frames on the basis of the number of frames that can be displayed during a unit time and for controlling the decoding means to dynamically control the playing quality of the motion picture data the number of bits per pixel of the decoded image data on the basis of a unit time during which a predetermined number of frames are to be displayed, a time needed to display said predetermined number of frames, or an anticipated time needed to display said predetermined number of frames said anticipated time.

16-17. (Canceled)

18. (Currently Amended) An image decoding method for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data, comprising the steps of:

decoding the frames of image data of the encoded motion picture data;  
displaying the frames of the decoded motion picture data;  
anticipating the time needed to display a predetermined number of frames on the basis of the number of frames that can be displayed during a unit time; and  
controlling the decoding step to dynamically control the playing quality of the motion picture data, the number of bits per pixel of the decoded image data on the basis of a unit time during which a predetermined number of frames are to be displayed, a time

~~needed to display the predetermined number of frames, or an anticipated time needed to display the predetermined number of frames said anticipated time.~~

19-20. (Canceled)

21. (Currently Amended) A program embodied in a computer readable medium for controlling an image decoding process to decode encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data by:

decoding the frames of image data of the encoded motion picture data;  
displaying the frames of the decoded motion picture data;  
anticipating the time needed to display a predetermined number of frames on the basis of the number of frames that can be displayed during a unit time; and  
controlling the decoding step to dynamically control the playing quality of the motion picture data, the number of bits per pixel of the decoded image data on the basis of a unit time during which a predetermined number of frames are to be displayed, a time needed to display the predetermined number of frames, or an anticipated time needed to display the predetermined number of frames said anticipated time.